

### Amendments to the Claims

Please AMEND claims 1-23 and ADD new claims 24-26 as follows:

1. (Currently Amended) A method ~~Method~~ of controlling heat transfer in a fluidized bed heat exchanger (10); having a heat exchange chamber (12) with a bed (14) of solid particles therein, the method comprising the following steps:

(a) feeding solid particles through an inlet (24, 74) in an upper ~~the top~~ portion of the heat exchange chamber to the upper surface (28) of the bed of solid particles therein; ~~thereby by~~ passing the solid particles along by a guiding channel (26, 66, 78) to an a restricted area of the upper surface of the bed of solid particles (28<sup>u</sup>), defined by the said guiding channel; ~~of said upper surface~~;

(b) fluidizing the bed of solid particles in the heat exchange chamber with a by fluidization gas;

(c) transferring heat by heat transfer surfaces (30) away from the fluidized bed of solid particles; and

(d) removing solid particles from the heat exchange chamber;  
~~characterized by~~  
~~in step (d) removing solid particles from the heat exchange chamber~~ through a first outlet (34, 58, 80) formed in the area of the guiding channel.

2. (Currently Amended) The A method of according to claim 1, wherein the restricted area ~~characterized by feeding solid particles to the heat exchange chamber to an area (28<sup>u</sup>) of the upper~~

surface of the bed of solid particles ~~has a~~, the cross-sectional surface area ~~that of which~~ is at most 30%, ~~preferably at most 10%~~, of the average cross-sectional area of the bed of solid particles.

3. (Currently Amended) ~~The A method of according to~~ claim 1, further comprising a step of characterized by restricting horizontal movement of solid particles between the guiding channel and the rest of the of the solid particle bed with an intermediate wall (38, 62, 76), which forms one wall of the guiding channel and which extends into ~~is inserted in~~ the bed of solid particles; ~~the horizontal movement of solid particles between the guiding channel and the rest of the of the solid particle bed.~~

4. (Currently Amended) ~~The A method of according to~~ claim 1, wherein characterized by ~~removing~~ solid particles are removed from the heat exchanger by overflow from the surface of the bed of solid particles in the heat exchange chamber.

5. (Currently Amended) ~~The A method of according to~~ claim 1, wherein characterized by ~~removing~~ solid particles are removed from the heat exchanger through a first adjustable outlet in the heat exchange chamber that is from below the surface of the bed of solid particles ~~in the heat exchange chamber through a first adjustable outlet.~~

6. (Currently Amended) ~~The A method of according to~~ claim 1, further comprising a step of characterized by removing further solid particles from the heat exchanger through a second outlet (50, 84) ~~in a~~ the lower portion of the heat exchange chamber.

7. (Currently Amended) ~~The A method of according to~~ claim 6, further comprising a step of ~~characterized by~~ adjusting the heat exchange in the heat exchanger by regulating the amount of solid particles passing through the second outlet.

8. (Currently Amended) ~~The A method of according to~~ claim 1, ~~wherein the for controlling heat transfer in a~~ fluidized bed heat exchanger is incorporated in a circulating fluidized bed reactor, ~~the heat exchanger having~~ the inlet (24) of the heat exchange chamber is connected to a return duct (46) of a particle separator (42) of the circulating fluidized bed reactor, ~~and the first outlet (58) of the heat exchange chamber leads~~ to a furnace (36) of the circulating fluidized bed reactor, and wherein ~~characterized by returning~~ solid particles flowing from the return duct (46) to the heat exchange chamber (12) are removed directly from the restricted area (28') of the upper surface of the bed of solid particles ~~defined by the guiding channel (66)~~ to the furnace (36) of the circulating fluidized bed reactor.

9. (Currently Amended) A fluidized bed heat exchanger, (10) comprising:  
[[ - ]] a heat exchange chamber (12) having a bed (14) of solid particles therein;  
[[ - ]] means (16, 18) for feeding fluidization gas into the heat exchange chamber for fluidizing the bed of solid particles therein;

[[ - ]] heat transfer surfaces (30) in contact with the bed of solid particles in the heat exchange chamber;

[[ - ]] an inlet (24, 74) arranged in an upper ~~the top~~ portion of the heat exchange chamber, through which ~~for feeding~~ solid particles are fed to the heat exchange chamber;

[[~~-~~]] a guiding channel (~~26, 66, 78~~) extending from above the upper surface (28) of the bed of solid particles at least to the surface (28) of the said bed of solid particles, along which the ~~for guiding solid particles are guided~~ from the said inlet (24, 74) to an a restricted area (28') ~~of the upper surface of the bed of solid particles defined by the guiding channel on the upper surface of the bed of solid particles;~~ and

[[~~-~~]] a first outlet (~~34, 58, 80~~) formed in the area of the guiding channel, through which, ~~for removing solid particles are removed~~ from the heat exchange chamber;

~~— characterized in~~

~~— the first outlet (34, 58, 80) being formed in the area of the guiding channel (26, 66, 78);~~  
~~for the removal of solid particles from the bed of solid particles in the area defined by the guiding channel.~~

10. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 9, characterized by wherein the restricted area (28') defined by the guiding channel on of the upper surface of the bed of solid particles being has a cross-sectional surface area that is at most 30%; ~~preferably at the most 10%~~, of the average cross-sectional area of the bed of solid particles.

11. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 9, characterized by wherein the restricted area (28') defined by the guiding channel on of the upper surface of the solid particle bed being abutted on is bounded in part by a first wall (32) of the heat exchange chamber.

12. (Currently Amended) The A fluidized bed heat exchanger of according to claim 11, ~~characterized by~~ wherein the first outlet (58, 80) ~~comprising~~ comprises an overflow opening arranged flush with the surface of the bed of solid particles.

13. (Currently Amended) The A fluidized bed heat exchanger of according to claim 11, ~~characterized by~~ wherein the first outlet (34) ~~comprising~~ comprises an adjustable outlet arranged below the surface of the bed of solid particles.

14. (Currently Amended) The A fluidized bed heat exchanger of according to claim 9, ~~characterized by~~ further comprising a second outlet (50, 84) ~~being~~ arranged in the heat exchange chamber.

15. (Currently Amended) The A fluidized bed heat exchanger of according to claim 14, ~~characterized by~~ wherein the second outlet (50) ~~being~~ is arranged in ~~the bottom~~ a lower portion of the heat exchange chamber.

16. (Currently Amended) The A fluidized bed heat exchanger of according to claim 14, ~~characterized in~~ wherein ~~[[ - ]]~~ the second outlet (84) ~~being~~ is arranged between the heat exchange chamber and a lifting channel (82) formed adjacent to the heat exchange chamber, and ~~[[ - ]]~~ an overflow opening (88) ~~being~~ is arranged in an upper ~~the top~~ portion of the lifting channel for the removal of solid particles from the lifting channel.

17. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 9, characterized by wherein the guiding channel (26, 66, 78) ~~being abutted on the~~ is bounded by a wall (32) of the heat exchange chamber and ~~on an intermediate wall (38, 62, 76)~~ arranged in the heat exchange chamber, the intermediate wall (38, 62, 76) extending from above the surface (28) of the solid particle bed at least to the surface of the bed of solid particles.

18. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 17, characterized by wherein the intermediate wall (38, 62, 76) ~~extending~~ extends from the surface of the bed of solid particles to about 10-50 cm, ~~preferably about 20-30 cm,~~ below the surface.

19. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 17, characterized by wherein the intermediate wall (38, 62, 76) ~~penetrating~~ extends into the solid particle bed to a depth that is at most 20% of the depth of the bed.

20. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 9, characterized in wherein a second outlet (50) ~~being~~ is provided in a lower portion of the heat exchange chamber ~~spaced apart from the vertical projection of the guiding channel in the bottom of the heat exchange chamber.~~

21. (Currently Amended) The ~~A~~ fluidized bed heat exchanger of according to claim 9, characterized in wherein the heat exchange chamber is being provided with a continuous bed of solid particles having a continuous fluidization.

22. (Currently Amended) A circulating fluidized bed reactor having a fluidized bed heat exchanger according to claim 9, ~~characterized by~~ wherein the inlet ~~(24)~~ of the fluidized bed heat exchanger ~~being~~ is connected to a return duct ~~(46)~~ of a particle separator ~~(42)~~ of the circulating fluidized bed reactor, and the first outlet ~~(34,58)~~ leads to a furnace ~~(36)~~ of the circulating fluidized bed reactor.

23. (Currently Amended) A fluidized bed reactor having a fluidized bed heat exchanger according to claim 9, ~~characterized by~~ wherein the inlet ~~(74)~~ of the fluidized bed heat exchanger ~~being~~ is connected directly to ~~the~~ a furnace ~~(36)~~ of the fluidized bed reactor.

24. (New) The method of claim 1, wherein the restricted area of the upper surface of the bed of solid particles has a cross-sectional surface area that is at most 10% of the average cross-sectional area of the bed of solid particles.

25. (New) The fluidized bed heat exchanger of claim 9, wherein the restricted area of the upper surface of the bed of solid particles has a cross-sectional surface area that is at most 10% of the average cross-sectional area of the bed of solid particles.

26. (New) The fluidized bed heat exchanger of claim 17, wherein the intermediate wall extends from the surface of the bed of solid particles to about 20-30 cm below the surface.